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REMARKS

Claims 1, 3-12, 14-17, 19, 21-26, 28-31, and 36-48 remain pending. In the present Office Action, claims 19, 22, 23, 36, 39, 43, 44, and 48 were rejected under 35 U.S.C. § 102(b) as being anticipated by Leung et al., U.S. Patent No. 4,905,231 ("Leung"). Claims 1, 5-8, 10-11, 14-16, 24-25, 28-30, and 37-38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Leung in view of Scott et al., U.S. Patent No. 5,748,900 ("Scott"). Claims 4, 9, 12, 17, 26, and 31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Leung in view of Scott and Van Doren et al., U.S. Patent No. 6,279,084 ("Van Doren"). Claims 21, 40-41, and 45-47 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Leung in view of Van Doren. Applicants respectfully traverse these rejections and request reconsideration. Applicants note that, while claims 3 and 42 are listed on the summary sheet of the Office Action as being rejected, the detailed action includes no specific rejection of these claims. Furthermore, the rejection of claim 4 is improper since it depends from claim 3, for which no rejection has been established.

Independent Claims 19, 36, and 43 are not anticipated by Leung

Applicants respectfully submit that each of claims 19, 36, and 43 recite combinations of features not taught or suggested in the cited art. For example, claim 19 recites a combination of features including: "said second node is configured to generate a first response packet in response to said first command packet and is further configured to transmit said first response packet using a response virtual channel of said plurality of virtual channels independent of which one of said plurality of virtual channels is said first virtual channel [in which said first command packet is transmitted]".

The Office Action alleges that the first virtual channel is taught by Leung's channel 2 and the response virtual channel is taught by Leung's channel 0. Applicants respectfully disagree. Leung's channel 0 is used to transmit control messages: "Control messages comprise packets which have a virtual channel number of zero." (Leung, col. 5, lines 9-10). Control messages are used, e.g., to set up another virtual channel for communication between various devices (Leung, col. 5, lines 32-37). The originator and

receiver exchange control packets in virtual channel 0 to set up one or more of the other virtual channels, and then communications between devices are performed on those other virtual channels. See, e.g., Leung's summary: "The packet communication arrangement includes a first plurality of user devices connected to the first interface and a second plurality for user devices connected to the second interface. A request for communication specifies one of the first and one of the second pluralities of user devices. A virtual channel identifier is assigned to the communication and information describing the virtual channel identifier, the specified first user device and the specified second user device is exchanged on the virtual circuit. This information is stored in the interfaces. Packets transmitted on the virtual circuit include data from the specified first user device and the virtual channel identifier assigned to communication from that user device. Received packets are then distributed to the specified second user device based on the information stored in the receiving interface. A departure is that control packets are exchanged in a predetermined virtual channel. Information from these control packets is used to provide a parameter table at each network interface. This parameter table is accessed and used to formulate packets for transmission as well as to control the distribution of received packets." (Leung, col. 2, lines 18-41).

Applicants can find no teaching in Leung that control messages/packets are generated in response to any communications on the other virtual channels. For at least all of the above reasons, Applicants submit that Leung's channel 0 and control messages transmitted thereon do not teach or suggest "said second node is configured to generate a first response packet in response to said first command packet and is further configured to transmit said first response packet using a response virtual channel of said plurality of virtual channels independent of which one of said plurality of virtual channels is said first virtual channel [in which said first command packet is transmitted]" as recited in claim 19.

Accordingly, Applicants submit that claim 19 is patentable over the cited art. Claims 21-23 depend from claim 19 and thus are patentable over the cited art for at least the above stated reasons as well. Each of claims 21-23 recites additional combinations of

features not taught or suggested in the cited art. Given the above remarks illustrating the patentability of claim 19, remarks highlighting such additional combinations are not necessary at this time. However, Applicants reserve the right to present such additional remarks at a later date, including on appeal to the Board of Patent Appeals and Interferences.

Claim 36 recites a combination of features including: "A node configured to implement a plurality of virtual channels for communicating with other nodes, wherein the plurality of virtual channels comprise at least a response virtual channel, a first virtual channel, and a second virtual channel, and wherein the node comprises circuitry that is configured to transmit response packets only in the response virtual channel, the response packets generated by the node in response to packets in any of the plurality of virtual channels that are defined to cause a response packet, wherein at least one packet assigned to the first virtual channel is defined to cause a response packet and at least one packet assigned to the second virtual channel is defined to cause a response packet". The Office Action again alleges that the response virtual channel is taught by channel 0 in Leung and that the first virtual channel and the second virtual channel are taught by Leung's channels 2 and 3. However, Leung's teachings, highlighted above, illustrate that Leung's channel 0 does not teach or suggest a response virtual channel as recited in claim 36.

Accordingly, Applicants submit that claim 36 is patentable over the cited art. Claims 37-42 depend from claim 36 and thus are patentable over the cited art for at least the above stated reasons as well. Each of claims 37-42 recites additional combinations of features not taught or suggested in the cited art. Given the above remarks illustrating the patentability of claim 36, remarks highlighting such additional combinations are not necessary at this time. However, Applicants reserve the right to present such additional remarks at a later date, including on appeal to the Board of Patent Appeals and Interferences. Claim 43 recites a combination of features including features similar to those highlighted above from claim 36. For similar reasons, Applicants submit that claim 43 is patentable over the cited art. Claims 44-48 depend from claim 43 and thus are patentable over the cited art for at least the above stated reasons as well. Each of claims

44-48 recites additional combinations of features not taught or suggested in the cited art. Given the above remarks illustrating the patentability of claim 43, remarks highlighting such additional combinations are not necessary at this time. However, Applicants reserve the right to present such additional remarks at a later date, including on appeal to the Board of Patent Appeals and Interferences.

Independent Claims 1, 10, and 24 are patentable over Leung and Scott

Applicants respectfully submit that each of claims 1, 10, and 24 recite combinations of features not taught or suggested in the cited art. For example, claim 1 recites a combination of features including: "storing said first response packet in a response buffer ... wherein said first response packet is a response to a first control packet belonging to one of said at least two additional virtual channels, and wherein said storing said first response packet in said response buffer is independent of which one of said at least two additional virtual channels said first control packet belongs to; receiving a second response packet in said first node, said second response packet a response to a second control packet belonging to a different one of said at least two virtual channels from said first control packet; and storing said second response packet in said response buffer".

The Office Action again appears to allege that Leung's channel 0 corresponds to the response virtual channel. However, Leung's teachings regarding channel 0 and the control messages/packets carried therein, highlighted above, do not teach or suggest the response virtual channel and response packets carried therein.

Furthermore, the Office Action alleges that the above highlighted features of claim 1 are obvious over Leung and Scott's teachings at col. 8, lines 9-17. Applicants respectfully disagree. The cited teachings of Scott are: "Buffers 260, 270, 280 and 290 are partitioned by setting bitmasks stored in designated memory mapped registers (MMRs) 295. The set of buffers usable by each virtual channel can overlap in arbitrary ways; some buffers may be dedicated to a single virtual channel 250, some buffers may be shared by a set of virtual channels 250, and some buffers may be shared by all virtual

channels 250. However, at least one buffer must be reserved for response packets. This requirement is in order to avoid deadlock." While these teachings indicate that there is at least one buffer for response packets, these teachings do not teach or suggest "storing said first response packet in said response buffer is independent of which one of said at least two additional virtual channels said first control packet belongs to" as recited in claim 1. Furthermore, these teachings do not teach or suggest "receiving a second response packet in said first node, said second response packet a response to a second control packet belonging to a different one of said at least two virtual channels from said first control packet; and storing said second response packet in said response buffer" as recited in claim 1.

Instead, Scott teaches a set of four virtual channels: "a read request channel (VC0) 250.0, a write request channel (VC1) 250.1, a channel for messages and read responses (VC2) 250.2 and a channel for write responses (VC3) 250.3" (Scott, col. 7, lines 61-64). Thus, a read request in VC0 results in a read response in VC2, and a write request in VC1 results in a write response in VC3. Therefore, the response virtual channel used for a response to a given request is one of two response virtual channels dependent on which of the two request virtual channels carries the request that causes the response. None of these teachings not teach or suggest "storing said first response packet in a response buffer ... wherein said first response packet is a response to a first control packet belonging to one of said at least two additional virtual channels, and wherein said storing said first response packet in said response buffer is independent of which one of said at least two additional virtual channels said first control packet belongs to; receiving a second response packet in said first node, said second response packet a response to a second control packet belonging to a different one of said at least two virtual channels from said first control packet; and storing said second response packet in said response buffer" as recited in claim 1.

For at least all of the above stated reasons, Applicants submit that claim 1 is patentable over the cited art. Claims 3-9 depend from claim 1 and thus are patentable over the cited art for at least the above stated reasons as well. Each of claims 3-9 recites

additional combinations of features not taught or suggested in the cited art. Given the above remarks illustrating the patentability of claim 1, remarks highlighting such additional combinations are not necessary at this time. However, Applicants reserve the right to present such additional remarks at a later date, including on appeal to the Board of Patent Appeals and Interferences.

Claim 10 recites a combination of features including: "said response packet is a response to a first control packet belonging to one of said first virtual channel and said second virtual channel, and wherein said second node is configured to store said first response packet in said response buffer independent of which of said first virtual channel and said second virtual channel to which said first control packet belongs". The teachings of Leung and Scott, highlighted above, do not teach or suggest the combination of features recited in claim 10, either. For at least this reason, Applicants submit that claim 10 is patentable over the cited art. Claims 11-12 and 14-17 depend from claim 10 and thus are patentable over the cited art for at least the above stated reasons as well. Each of claims 11-12 and 14-17 recites additional combinations of features not taught or suggested in the cited art. Given the above remarks illustrating the patentability of claim 10, remarks highlighting such additional combinations are not necessary at this time. However, Applicants reserve the right to present such additional remarks at a later date, including on appeal to the Board of Patent Appeals and Interferences.

Claim 24 recites a combination of features including: "in response to receiving a first response packet that is a response to a first control packet belonging to one of said first virtual channel and said second virtual channel, the node is configured to store said first response packet in said response buffers independent of which of said first virtual channel and said second virtual channel to which said first control packet belongs". The teachings of Leung and Scott, highlighted above, do not teach or suggest the combination of features recited in claim 24, either. For at least this reason, Applicants submit that claim 24 is patentable over the cited art. Claims 25-26 and 28-31 depend from claim 24 and thus are patentable over the cited art for at least the above stated reasons as well. Each of claims 25-26 and 28-31 recites additional combinations of features not taught or


suggested in the cited art. Given the above remarks illustrating the patentability of claim 24, remarks highlighting such additional combinations are not necessary at this time. However, Applicants reserve the right to present such additional remarks at a later date, including on appeal to the Board of Patent Appeals and Interferences.

CONCLUSION

Applicants submit that the application is in condition for allowance, and an early notice to that effect is requested. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5500-46201/LJM. Also enclosed herewith are the following items:

☒ Return Receipt Postcard

Respectfully submitted,



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AGENT FOR APPLICANT(S)

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